

REMARKS

Claims 1-3, 5-12, and 14-25 were previously pending in the application. Claims 1, 3, 5, 22, and 24 have been amended in accordance with the requirements of U.S. patent practice. Claims 9-11, 21, and 23 have been canceled. Upon entry of the present amendment, claims 1-3, 5-8, 12, 14-20, 22, and 24-25 are pending in the application.

Claims 1 and 24 have been amended to recite that the extract applied to the original finish is a clearcoat, as supported on page 8, para. 0033, and also that the process is used for overcoating an entire area of the multicoat paint system or for overcoating a defect to the multicoat paint system and all of the adjacent area up to a boundary, as supported on page 10, para. 0047. The other amendments to claim 1 are based on limitations present in independent claim 24. Claim 3 has been amended as supported on page 8, para. 0032. Claims 5 and 22 have been amended to correct dependency and antecedent basis. Claim 24 has also been amended to improve antecedent basis and grammar.

Amendments to, cancellation of, and additions to the claims, as set forth above, are made in order to streamline prosecution in this case by limiting examination and argument to certain claimed embodiments that presently are considered to be of immediate commercial significance. Amendment or cancellation of the claims is not in any manner intended to, and should not be construed to, waive Applicants' right in the future to seek such unamended or canceled subject matter, or similar matter (whether in equivalent, broader, or narrower form) in the present application, and any continuation, divisional, continuation-in-part, RCE, or any other application claiming priority to or through the present application, nor in any manner to indicate an intention, expressed or implied, to surrender any equivalent to the claims as pending after such amendments or cancellations.

1. **Rejection of Claim 5 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.**

Claim 5 has been rejected under 35 U.S.C. §112, second paragraph, as being indefinite for the reason that claim 5 depends on canceled claim 4. The above amendment to claim 5 is believed to obviate this rejection, which amendment is supported by original claim 5.

2. **Rejection of claims 1, 2, 5-12, and 14-23 under 35 U.S.C. §103(a) as being unpatentable over Mayer (US 5,633,037) and Applicants' admitted state of art, further in view of Hartung et al. (US 5,368,944) and further in view of Duda et al. (US 6,495,201)**

Applicants greatly appreciate the detailed basis of rejection but must respectfully disagree in regard to the invention of independent claims 1 and 25 to the extent that the rejection applies to the amended claims. Taken as a whole, it is respectfully submitted that the cited combination fails to provide the requisite motivation for a prima facie case of obviousness.

The Office Action states as follows:

Mayer discloses a process for producing a multicoat refinish system comprising applying a clear (pigment-free) aqueous coating material (See column 14, lines 48-49, 59-60) in the region of the defect in the OEM finish, followed by an aqueous refinish basecoat material containing metallic pigment and a transparent top coat composition, and simultaneously drying all three layers at temperature up to 140°C (See column 1, lines 5-31). The aqueous or water-thinnable coating materials used in the process according to the invention (i.e. for each of three coating layers) contain at least one water-thinnable or water-dispersible binder, preferably in amounts from 5 to 50% by weight, particularly preferably in amounts from 10 to 30%, in each case based on the total weight of the coating material (See column 4, lines 36-41). These binders can be **polyurethane** resins (See column 4, lines 41-42) that can be modified by functional groups which are suitable for crosslinking of the resins using curing agents (See column 4, lines 43-46). In other words, the first clear coating material is a *pigment-free extract* of the aqueous refinish basecoat material. The aqueous coating materials may contain 5 to 20% by weight, based on the total solids content of the coating material, of a water-thinnable **amino resin**, preferably **melamine resin**, and 5 to 20% by weight of a water-thinnable polyether (for example polypropylene glycol having a number average molecular weight of 400 to 900) (See column 14, lines 11-16). A clearcoat material is then applied wet on wet to the aqueous basecoat film, after which the films present are cured together (See column 1, lines 21-31). The Examiner takes official notice that it is a common knowledge in the art that wet on wet technique involves flashing off each coat before applying a subsequent

coat. The coating material is applied by e.g. a **spray gun** (See column 4, lines 15-16) in the region of the area of damage with a dry film thickness of **2 to 50** μm (See column 3, lines 21-23) using the tapering-off technique (See column 4, lines 1 - 15).

01/06/2009 Office Action page 3, section 4, to page 4, line 8.

Applicants respectfully submit that there are several very significant differences between Mayer and the present process. Importantly, Mayer is directed to a conventional refinish that repairs a damaged original finish of an automobile, after having been built and used. Such conventional refinish will herein be referred to as a “post-OEM refinish” that takes place in “conventional refinish workshops.” Thus, in contrast to the present invention, Mayer is directed to a process of post-OEM refinish for the repair of damage such as caused by an automobile accident or “fender bender.” In no case does Mayer refer to overcoating or repairing of a defect in the original finish or to refinish at an automaker’s plant. Rather, Mayer refers to refinishing in which a coating material is first applied to the prepared area of “damage,” which damage is mentioned four times in the Abstract of Mayer. Specifically, throughout the patent, Mayer refers to damage but never to a defect with respect to an original finish. Mayer states, “The object of the present invention is to provide a process for the production of a multicoat refinish paint system which process allows areas of damage to a multicoat metallic finish to be repaired.” [Emphasis added.] In col. 17, lines 24-26, Mayer states, “A refinish area is simulated on this substrate by producing an area with the paint abraded to bare metal.” [Emphasis added.]

The examples of Mayer further clarify that Mayer is directed to a post-OEM refinish. It is especially relevant that Mayer’s examples disclose, in the original finish, a basecoat based on cellulose acetobutyrate, as compared to various refinish coatings that do not contain any cellulose acetobutyrate. In addition, the refinishing in Mayer is conducted at 60°C, rather than the higher temperatures commonly used at a manufacturer’s plant. It is clear that, in Mayer, none of the coating materials from the original finish are used in refinishing. Mayer states, for example, that a “conventional refinish primer surfacer” is applied. Col. 17, lines 29-30. In contrast, the present invention requires applying the extract “to an outer surface of the (original) multicoat paint system.”

Another important point of difference is that Mayer nowhere mentions electrostatic spray application of the original finish, as required by the present claims. As described in the present application, it was surprisingly found that the multicoat color and/or effect paint systems with which OEM finishes were overcoated no longer exhibited any deleterious shift in shade and/or any deleterious change in optical effect, especially metallic effect, even when the finish had been produced by means of electrostatic spray application.

Another important point of difference, related to the fact that Mayer is directed to post-OEM refinishing, is that Mayer uses a tapering technique that is, in effect, now excluded by the present claims. This tapering technique is used to compensate for the fact that the refinishing basecoat is, contrary to the present claims, different from the original basecoat. The tapering involves applying the refinishing basecoat so that it "tapers off into the adjacent areas," so that "from the edge of the area of damage outwards the film thickness gradually diminishes to 0 μm ." Col. 1, line 65, to col. 2, line 1. This technique is used to compensate for a change in shade, by gradually blending the refinishing paint shade into the original paint shade. In contrast, the present claims now recite that, "the process is used for overcoating an entire area of the multicoat paint system or for overcoating a defect to the multicoat paint system and all of the adjacent area up to a boundary." Accordingly, no tapering would be used. In fact, the tapering technique of Mayer is the whole purpose of Mayer using the "aqueous coating material" that is alleged to correspond to extract used in the present process.

In other words, the "extract" used for film (1) in the present OEM refinishing is for a different purpose than the "aqueous coating material" of Mayer. Mayer uses the aqueous coating material to correct a problem caused by tapering. Mayer states:

In particular, when the known aqueous basecoats are applied directly, for this purpose to an aqueous refinishing body filler, the area of damage cannot be repaired satisfactorily, since this gives rise to shade changes and special effect variations in the area of damage. Repair of the areas of damage using the blend-in spraying technique described above is likewise not satisfactorily possible. This is due to the fact that the required tapering-off spraying into the adjacent part regularly leads to an altered orientation of the effect-producing pigments and hence to shade changes..." (Col. 2, lines 16-30.)

Thus, though both Mayer and the present invention relate to preventing shade changes due to altered orientation, it is for altered orientation arising from entirely different causes, i.e., an altered orientation caused by a change in coating thickness (tapering off) versus an altered orientation caused by a change from electrostatic to pneumatic spraying. It would be entirely unobvious that the latter problem in OEM refinish could be solved based on Mayer's solution to a different problem in post-OEM refinish. Moreover, it would be entirely unobvious and unpredictable that an extract such as presently claimed could solve the problem of shade change due to a change from electrostatic to pneumatic spraying.

As stated in the present specification, on page 1, paragraphs [003] and [0004]:

The basic assumption in the art is that a shade and/or optical effect produced by ESTA application [electrostatic spray application] cannot be copied pneumatically. In order to prevent at least partly the shift in shade and change in optical effect, OEM finishes are refinished on the line at the automaker's plant using conventional basecoat materials, i.e., based on materials comprising organic solvents, whose shade and/or optical effect are adapted to those of the basecoats to be refinished. However, this approach is very complicated, since a conventional basecoat material has to be prepared and stocked at the automaker's plant separately for every production shade and/or effect. [Emphasis added]

The Office Action has provided no grounds for the allegation that one of ordinary skill in the art would assume that an ESTA original finish and a pneumatically applied refinish coating would match in shade or effect. In light of the prior art, it was surprising and unforeseeable that the object on which the present invention was based could be achieved by means of the refinish process of the present invention. As stated in the original specification, it was indeed surprising that the overcoated OEM refinish of the present invention did not exhibit any deleterious shift in shade and/or any deleterious change in optical effect, especially metallic effect, particularly when the original finish had been produced by means of electrostatic spray application. This meant that, contrary to the opinion of the art, it was indeed surprisingly possible to copy pneumatically the shades and optical effects produced by means of ESTA application.

In addition, the compositions, conditions, and process steps used in conventional refinish workshops are quite different from those in an automaker's plant. Such refinish workshops, as shown by Mayer, use sanding and refinish body filler and have greater latitude in choice of coating materials irrespective of the original OEM finish. Post-OEM refinish processes not only

conventionally use different materials and conditions than associated with the original OEM finish, but also use tapering to compensate for those differences.

Moreover, the present problem of using pneumatic spraying to repair an OEM finish made by electrostatic spraying, as well as the different context of post-OEM refinish, is actually emphasized and reinforced by the statements in the Office Action. The Office Action states:

Mayer teaches that the repair of metallic paints is particularly difficult, since the shade and brightness of **the special effect are highly dependent on the method of working; the width of the spray gun nozzle and the spray pressure**, inter alia, play a crucial role (See column 1, lines 32-42) as well as the method of thinning and the spray viscosity likewise influence shade and special effect (See column 1, lines 42-43). The region of the adjacent original finish which is coated with the coating material **using the tapering-off technique** depends on many factors, for example the spray gun, the spraying pressure, the nature, size and position of the area of damage and similar (See column 4, lines 15-24). It is known in the repair art that in the case of metallic multicoat finishes the repair area and the adjacent parts are resprayed with a conventional, i.e. solvent-borne, highly thinned clearcoat **after the preparative work described above, such as cleaning, sanding, surfacing, etc.** (See column 1, lines 49-61); after the clearcoat coating produced in this way has been surface-dried **at room temperature** or a slightly elevated temperature, the area of damage is resprayed with special-effect paints, such as metallic basecoats, in such a way that the paint hides the area of damage and tapers off into the adjacent areas, i.e. from the edge of the area of damage outwards the film thickness gradually diminishes to 0 µm (See column 1, lines 62-67).

(01/06/2009 Office Action page 4, line 8, to page 5, line 1.)

Thus, the Office Action confirms that post-OEM refinish such as used in Mayer occurs at relatively low temperature, involves additional coating such as surfacing, involves tapering, and is very sensitive to spraying characteristics.

The Office Action concedes that, "Mayer fails to teach that the same basecoat is used in original finish and in the repair finish." (01/06/2009 Office Action page 5, para. 4.) The Office Action, therefore, cites Hartung as follows:

Hartung et al. teaches that the term *refinishing* is understood to mean the **repair** of *original* finishes using a *fresh* coating of basecoat and clearcoat and joint baking of the overcoated basecoat and clearcoat. Refinishing can be effected **shortly** after the original finishing on the production line as well as after the automobile has been built (See column 5, lines 62-67). By using nonionically and/or ionically stabilized polyurethane resin

containing (See column 2, lines 61-63) aqueous metallic basecoats (See column 5, lines 5-8) and water-thinnable melamine formaldehyde resin (claimed amino resin crosslinking agent) (See column 7, lines 40-41) it is possible to produce refinishes which possess improved adhesion especially to original finishes which have not been pretreated, for example, by sanding. (See column 1, lines 37-43; column 6, lines 4-7). The improved adhesion between the clearcoat and basecoat films is particularly apparent when 2-component clearcoats based on hydroxyl- and carboxyl-containing polyacrylate resins and polyisocyanates are used (See column 6, lines 13).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the same base coat and clear coat layers for producing original finish and repair refinish in Mayer shortly after the original finishing on the production line as well as after the automobile has been built, with the expectation of providing the desired improved adhesion to original finishes, as taught by Hartung et al.

(01/06/2009 Office Action page 5, para. 4.)

Applicants respectfully submit that Hartung merely defines refinishing of an original finish as occurring either on a production line or after the automobile has been built. The fact that refinish can occur in both settings, however, does not mean the refinish is necessarily the same. As noted by Hartung, for example, baking temperatures in the latter (OEM) case are generally up to 140°C, whereas in the second (post-OEM) case baking temperatures are more typically up to about 80°C. So Hartung cannot teach that the post-OEM refinish teachings of Mayer would predictably work in the very different context of OEM refinish.

Of particular relevance, Hartung says absolutely nothing about the use of a clearcoat extract and makes no mention or suggestion with respect to the aqueous coating composition of Mayer or its tapering technique. Furthermore, there is nothing in Hartung that remotely suggests that one of ordinary skill in the art would use the same basecoat and clearcoat for producing both the original finish and repair finish, particularly without using a primer-surfacer or sanding to bare metal and particularly after using electrostatic spraying for the original basecoat and pneumatic spraying for the refinish basecoat. There is absolutely no teaching of this in either Mayer or Hartung. The Office Action is merely making an unfounded assumption. The mere fact that OEM refinish, in general, occurs shortly after OEM original finish, falls far short of any such teaching.

Furthermore, to clarify, the present invention does not necessarily use the same basecoat in both the original and refinish basecoats, but only requires that key constituents used in the clearcoat extract of step (1) of claim 1, as well as the aqueous refinish basecoat material of step (3) substantially corresponds or is identical to the aqueous basecoat material (A) or one of the aqueous basecoat materials (A) from which the basecoat (A), in the underlying finish, was produced. Thus, the present process can advantageously use, with respect to the extract of step (1) and the aqueous basecoat refinish material of step (3), constituents such as binders and crosslinkers that substantially correspond or are identical with respect to constituents in the underlying paint system, but which can vary in terms of amounts, concentrations, and additives, as described in the application.

Moreover, Hartung enforces Mayer's teaching of requiring a "body filler coat" or primer-surfacer, as compared to the present process of applying the extract to the surface of the original finish. Hartung states that "In the finishing of automobile bodies the basecoats are usually applied over the body filler coat." (Col. 6, lines 28-31.)

Finally, with respect to present independent claim 24, Hartung cannot in any way modify Mayer. Thus, the polyurethane and specified crosslinker used in the present extract is nowhere taught by Hartung. In particular, independent claim 24 requires that the aqueous basecoat material (A) and the extract comprise at least one ionically and/or nonionically stabilized polyurethane binder which is saturated, unsaturated, and/or grafted with olefinically unsaturated compounds and, furthermore, that the aqueous basecoat material (A) and the extract further comprise at least one crosslinking agent selected from the group consisting of blocked polyisocyanates and tris(alkoxycarbonylamino)triazines. This combination is not mentioned in Mayer or Hartung. Moreover, none of the four aqueous coating compositions used in the working examples of Mayer comprise any crosslinking agent at all.

The Office Action also states

Note that Applicants admitted that Mayer (EP 052 1040 B2) disclosed all limitations of claimed invention (See P5 of the Applicants' specification) except that the known refinish process was unable to solve the existing problems since the refinish in the conventional sense, which of course is carried out above all in vehicle finishing workshops compared to

overcoating on the line at the automaker's plant, since said overcoating requires quite different amounts of coating materials and an entirely different logistical system. However, Claim 1 does not recite logistical system. Therefore, Mayer reads on claim 1.

(01/06/2009 Office Action page 5, para. 3.)

Applicants once again state, for the record, that no such alleged admission has been made. Paragraph 5 should be held to state exactly what it states, not "all limitations...except," which is merely the Examiner's own unfounded interpretation. This so-called admission is not an admission of anything that is not disclosed in Mayer, so the Examiner's use of this so-called admission provides no added content. In Applicants' previous Amendment, clarification was requested as to what the Examiner is contending that Applicants have admitted other than what is disclosed in Mayer already, with respect to any limitations of the presently claimed invention. Such clarification is still requested.

As discussed above, Mayer discloses "a multicoat refinish system in the conventional sense," which obviously refers to post-OEM refinish workshops for repairing damage caused by accidents outside an automobile manufacturer's plant. Paragraph 5 says nothing about using a coating composition that is a pigment-free extract of the original finish basecoat. Furthermore, paragraph 5 says nothing about electrostatic spraying of the original basecoat. Paragraph 5 says nothing about the use of a particular binder and crosslinking agent, as required by claim 24, in both the original basecoat and the aqueous material. Paragraph 5 says nothing about the fact that the purpose of the extract in the prior art was to compensate for tapering, not to compensate for a change from electrostatic to pneumatic spraying. Paragraph 5 says nothing about post-OEM refinish using a primer-surfacer or sanding to bare metal.

Finally, the Office Action cites Duda et al. for teaching a pneumatic spray gun, as stated in the Office Action on page 6, para. 4. Applicants do not disagree that pneumatic spray guns are conventionally used for vehicle repair coating.

Reconsideration and removal of the obviousness rejection of claims 1, 2, 5-12, and 14-23 are respectfully requested in view of the foregoing remarks.

3. Rejection of claims 3, 24, and 25 under 35 U.S.C. §103(a)/102(a/b) as being unpatentable over Mayer and Applicants' admitted state of art, further in view of Hartung et al, and further in view of Duda et al., as applied above, and further in view of Sakamoto et al. (US 6,168,864).

Mayer, Hartung, the alleged admission, and Duda were all discussed above. With respect to Sakamoto et al. (hereafter "Sakamoto"), the Office Action states as follows:

The cited prior art fails to teach that the OEM finish comprising aqueous basecoat and liquid clear coat is produced by an *electrostatic* spray application.

Sakamoto et al teaches that a multilayer automotive coating film comprising aqueous basecoat (See column 7, lines 1-5) and a liquid clear coat (See column 7, lines 13-14) may be produced by *electrostatically* spraying the liquid clear coat over spray coated basecoat (See column 12, lines 13-21). The spray coating of the basecoat can be performed using an air spray coater, airless spray coater, air atomizing or rotary atomizing electrostatic coater (See column 8, lines 25-28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have produced a multilayer automotive coating in the cited prior art using electrostatic spraying since Sakamoto et al teaches that a multilayer automotive coating film comprising aqueous basecoat and a liquid clear coat may be produced by electrostatically spraying.

(01/06/2009 Office Action page 9, paragraphs 3-5.)

Applicants are willing to concede that electrostatic spraying of OEM finishes are *per se* known in the art. However, this does not correct any of the above-noted deficiencies of Mayer or Mayer in view of Hartung and Duda. Sakamoto is apparently directed to a particular cationic electrodeposition coat formed from an epoxy-based cationic composition. Abstract. Sakamoto says nothing about refinishing; it mentions neither a refinishing process nor a refinishing composition.

The Office Action further states:

As to lower solids concentration in clear coat than in basecoat, Mayer teaches that as described in Chapter 7 "Automotive Refinishing" of the Glasurit Handbook, in the case of metallic multicoat finishes the repair area and the adjacent parts are resprayed for this purpose with a conventional, i.e. solvent-borne, **highly thinned** clearcoat after the preparative work described above, such as cleaning, sanding, surfacing, etc. It is important that this clearcoat is also sprayed on to the repair area, i.e. the body filler patches. Customary conventional clearcoats, for example 2-component clearcoats based

on hydroxyl-containing acrylate copolymers as binders and isocyanates as crosslinking agents, are used as the clearcoat for this purpose. (See column 1, lines 49-61). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used highly thinned aqueous clearcoat in Mayer to apply to the repair area.

Applicants respectfully submit, however, that this alleged teaching is insufficient for two reasons. First, the Office Action is referring to a solvent-borne coating system, whereas both the present invention and Mayer are, in fact, directed to aqueous coatings. Thus, the Office Action has mistakenly referred to the prior art, which Mayer used to show the background of the invention and which prior art was used as the comparison in Mayer, in Comparison Examples 4 and 5, col. 23. In fact, Mayer uses an aqueous coating composition which is intentionally not thinned, but rather which has the same solids concentration as the basecoat composition. Thus, Mayer actually teaches away from the presently claimed invention in this respect.

Furthermore, as stated above, none of the references teach the use of a clearcoat extract (in any refinish process, let alone an OEM refinish process) that comprises at least one ionically and/or nonionically stabilized polyurethane binder which is saturated, unsaturated, and/or grafted with olefinically unsaturated compounds, and a crosslinking agent selected from the group consisting of blocked polyisocyanates and tris(alkoxycarbonylamino)triazines.

Finally, Mayer alone, or in combination with the other references, fails to teach, as required by claim 25, that the pneumatic spray application in step (3), with respect to the refinish basecoat, is conducted at a spraying pressure of from 0.3 to 1.8 bar, compared to the pneumatic spray application in step (1), with respect to the clearcoat extract, which is conducted with a spraying pressure of from 2.5 to 5 bar. Mayer employs a spray pressure of 2-3 bar for the refinish basecoat, which is higher than required by claim 25. Although the Office Action did not discuss spray pressure with respect to claim 25, the Office Action did state, with respect to the other rejection in general and claim 5, as follows:

If desired, the edge zone can in the case of difficult colors be resprayed using lower spray pressure...If it could be argued that as metallic basecoats are sprayed over the first clear coat at lower pressure than the first clear layer, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied a basecoat at less pressure than the first layer with the expectation of providing the desired tapered optimum coverage of original finish. (01/06/2009 Office Action page 5, para. 2.)

While the Examiner has made a very good point about Mayer's post-OEM refinish, the present claims have now been amended to clarify that the OEM-refinish of the presently claimed process does not involve tapering, so likewise tapering at lower pressure is not involved in the presently claimed process. As discussed above, the tapering in the prior art was used to compensate for, or hide, shade shift due to a change in basecoat composition, not to prevent shade shift, whereas the present invention avoids shade shift and does not require tapering.

Taken as a whole, it is respectfully submitted that the cited combination fails to provide the requisite motivation for a prima facie case of obviousness.

Reconsideration and removal of the obviousness rejection of claims 3, 24, and 25 are respectfully requested in view of the foregoing remarks.

CONCLUSION

Applicant(s) respectfully submit that the Application and pending claims are patentable in view of the foregoing amendments and/or remarks. A Notice of Allowance is respectfully requested. As always, the Examiner is encouraged to contact the Undersigned by telephone if direct conversation would be helpful.

Respectfully Submitted,

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